

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF MISSOURI
WESTERN DIVISION**

JUSTIN HOWERTON, a Minor and)	
LORI HOWERTON, as Next Friend)	
)	
Plaintiffs,)	
v.)	
)	Case No. 05-1075-CV-W-FJG
BLITZ USA, INC.)	
an Oklahoma Corporation,)	
)	
and)	
)	
WAL-MART STORES EAST, L.P.)	
a Delaware Limited Partnership,)	
)	
Defendants.)	

ORDER

Currently pending before the Court is Wal-Mart's Motion to Exclude the Testimony of Dr. Hasselbring (Doc. # 175); Blitz's Motion to Strike and Exclude Lori Hasselbring (Doc. # 180) and Plaintiffs' Motion to Exclude Testimony of Richard Roby (Doc. # 182).

I. BACKGROUND

On March 17, 2002, twelve year old Justin Howerton attempted to burn a large pile of brush by pouring gasoline on the brush from a five gallon gasoline container. The container was manufactured and sold by Blitz USA, Inc. Justin poured gasoline on the brush pile one time before lighting it. The area where the fire was initially lit burned for a few seconds and then died down. Justin then picked up the container to pour more gasoline on the fire. It is not known how much gasoline was in the container initially, nor is it known how much gasoline Justin poured on the fire, either the first or

second time. The temperature the night before had been 27°F and the container was stored in an outside barn. The temperature on the day of the accident was 44°F. The flame from the brush pile leapt back to the container and started the end of the spout on fire. When Justin attempted to blow out the fire, the container exploded and he suffered severe injuries.

II. STANDARD

In Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), the Supreme Court interpreted the requirements of Federal Rule of Evidence 702 as they related to expert testimony. In United States v. Vesey, 338 F.3d 913, 916-17 (8th Cir. 2003), cert. denied, 540 U.S. 1202 (2004), the Court stated:

Rule 702 requires the trial judge to act as a “gatekeeper,” admitting expert testimony only if it is both relevant and reliable. See Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 589, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993). The trial court is granted broad discretion in its determination of reliability. Kumho Tire Co. v. Carmichael, 526 U.S. 137, 142, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999). The gatekeeper role should not, however, invade the province of the jury, whose job it is to decide issues of credibility and to determine the weight that should be accorded evidence, see Arkwright Mut. Ins. Co. v. Gwinner Oil Co., 125 F.3d 1176, 1183 (8th Cir. 1997). Expert testimony should be admitted if [1] it is based on sufficient facts, [2] it “is the product of reliable principles and methods,” and [3] “the witness has applied the principles and methods reliably to the facts of the case.” Fed.R.Evid. 702; see also General Elec. Co. v. Joiner, 522 U.S. 136, 146, 118 S.Ct. 512, 139 L.Ed.2d 508 (1997).

Vesey, 338 F.3d at 916-17. “The proponent of the expert testimony must prove its admissibility by a preponderance of the evidence.” Lauzon v. Senco Prods, Inc., 270 F.3d 681, 686 (8th Cir. 2001). “Rule 702 reflects an attempt to liberalize the rules governing the admission of expert testimony.” Weisgram v. Marley Co., 169 F.3d 514, 523 (8th Cir. 1999), aff’d, 528 U.S. 440, 120 S.Ct. 1011, 145 L.Ed.2d 958 (2000). “The rule clearly ‘is one of admissibility rather than exclusion.’” Sappington v. Skyjack, Inc.,

446 F.Supp.2d 1059 (W.D.Mo. 2006), quoting Arcoren v. United States, 929 F.2d 1235, 1239 (8th Cir. 1991).

III. DISCUSSION

A. Motions to Exclude Dr. Lori Hasselbring

Wal-Mart states that Dr. Hasselbring's opinion should be excluded because: 1) a jury does not need an expert to explain that gasoline is flammable and can explode; 2) her methodology is not reliable because she failed to follow NFPA¹ 921; 3) Hasselbring failed to follow and rely on recognized testing standards; 4) the 2002 testing which she used is not the same or substantially similar to the actual events in this case and 5) her work has not been peer reviewed or published. Blitz moves to exclude Hasselbring for three reasons: 1) she is not qualified to testify regarding combustion science and engineering science; 2) her opinions are not reliable and 3) her opinions are not relevant.

1. Hasselbring's Qualifications

Blitz argues that Hasselbring has not taken any specialized training or coursework in combustion science engineering. Additionally, Blitz states that Hasselbring is offering an alternative product design (a portable gasoline can that includes a flame arrester), but she has no personal knowledge of the manufacturing process used by Blitz, she had not been to the factory, has not reviewed the MSDS sheets for the product and has no knowledge of the specific plastics, additives and preparations utilized during the manufacturing process. Blitz states that she is not a manufacturing expert. Additionally, Blitz argues that Hasselbring's experience is only litigation based and the

¹NFPA stands for the National Fire Protection Association.

testing she performed involved gas containers manufactured by other companies which had smaller amounts of gasoline in them than the can involved in the instant case.

Plaintiffs respond that Dr. Hasselbring has a PhD in Chemical Engineering, a master's degree in Chemical Engineering, a certification in Fire and Explosion Investigation, a certification in Fire Investigation; a Chairmanship of the ASTM 15.10 Flame Arrester Task Group and twelve years of experience in studying plastics and analysis of the failure of plastics. Plaintiffs state that there is no requirement that Hasselbring visit Blitz's plant or read the MSDS data sheets or that she be a manufacturing expert. The Court agrees with plaintiffs and finds that Dr. Hasselbring is sufficiently qualified to be able to offer an opinion regarding the reason for the explosion at issue.

2. Reliability

Defendants argue that Hasselbring's opinions lack scientific validity and reliability because she did not follow proper scientific methods in her testing. Blitz argues that Hasselbring relies on tests where she attempted to create conditions that would lead to an internal combustion explosion, without regard to the fact that the testing conditions bore no relationship to the facts and conditions of the Howerton incident. Blitz argues that at the time of the incident, the outside temperature was 44° F, the gasoline had been purchased within the last couple of weeks and stored in a closed container (meaning that no weathering² would have occurred). Blitz argues that Hasselbring could only produce an internal combustion explosion when the amount of the gasoline in

²Weathering is a process whereby through heat and agitation, a volatile liquid loses its light components (the volatile components) through evaporation, resulting in a fuel that has less mass, less volatility, a higher boiling point, a lower vapor pressure and lower ignitability.

the container was very small, the gasoline was significantly cooled (to -20° F and the gasoline was significantly weathered. Thus, Blitz argues that Hasselbring's tests are not valid because they were not conducted under conditions that were remotely similar to the conditions on the day of the accident. Additionally, Blitz argues that Hasselbring's theory of an internal combustion explosion have not been subjected to peer review and publication. Blitz also states that in Hasselbring's Stoichiometric Gasoline Fire Tests, she did not measure or control the vapor concentrations during these tests. Thus, Blitz states that these tests are unreliable in their ability to predict when internal combustion explosions can occur. With regard to the "Gasoline Spill Tests," Blitz argues that Hasselbring did not control the variables and thus the potential error rate is one hundred percent. Blitz also argues that any comparison of a test that uses a flame arrester cannot be compared to a test that does not use a flame arrester, due to the associated error rate. Blitz also argues that the internal combustion theory does not enjoy general acceptance in the field of combustion and fire science because any liquid gasoline in equilibrium in the container will be too rich to burn in conditions where the temperature is 44°F with almost no weathering, as was the case in this instance.

Plaintiffs state in response that Dr. Hasselbring conducted ninety-six fire tests and that on no occasion did an explosion occur when a flame arrester was used. Additionally, she notes that she conducted a case study involving a very similar factual situation and that she reproduced the scenario through testing and then reproduced it again with a flame arrester. She states that this case study was published and peer reviewed in the Journal of Hazardous Material, Vol. 130, Issues 1-2, March 17, 2006, pgs. 64-68. Additionally, she states that she has presented her case study along with variations thereof at five different symposiums from 2004 through the present. Thus, she

states that her theories have been published and subjected to peer review.

With regard to the similarity between her tests and the facts of the case, she states that the facts used in testing are broad enough so that they apply to this case. With regard to the temperature of the gasoline, Dr. Hasselbring states that she conducted tests with temperatures ranging from a low of 20°F to a high of 95°F. She states that the Ignition Handbook verifies her testing that explosions can occur in temperate climates when the container is being emptied, as happened in this case. She also notes that the issues with regard to temperature and the amount of gasoline in the container are disputed factual issues which should not be decided by the Court in the context of a Daubert motion. Dr. Hasselbring states that her tests were conducted in conformity with NFPA 921. NFPA sets the standards for fire and explosion investigation. The specific methodology outlined by NFPA is as follows: “1)define the problem; 2) collect data; 3) analyze the data; 4) develop a hypothesis; 5) test the hypothesis and 6) select final hypothesis.” Dr. Hasselbring states that she followed all of these steps and that her report outlines the data which she collected and analyzed, her theories and her tests and final conclusions.

In Menz v. New Holland North America, Inc., 460 F.Supp.2d 1058 (E.D.Mo. 2006), aff’d, 507 F.3d 1107 (8th Cir. 2007), the Court noted:

In Daubert, the Supreme Court set forth a number of factors that district courts may consider in assessing reliability: (1) whether the theory can be (and has been) tested, (2) whether the theory has been subject to peer review and publication, (3) the known or potential rate of error, and (4) whether the theory enjoys general acceptance in the relevant scientific community. . . . Further, Daubert’s progeny provides additional factors such as: whether the expertise was developed for litigation or naturally flowed from the expert’s research; whether the proposed expert ruled out other alternative explanations; and whether the proposed expert sufficiently connected the proposed testimony with the facts of the case.

Id. at 1064 (internal citations and quotations omitted). In the instant case, Dr. Hasselbring's theories have definitely been tested. She conducted numerous tests involving gasoline containers of varying sizes, using different amounts of gasoline and under varying temperatures. Defendants point to these differences as reasons to exclude the tests and reasons why the test are not reliable. However, despite defendants' assertions that the container that Justin used on the day of the accident was two-thirds full, this is a fact which is clearly in dispute. The Court finds that the differences in the tests go more to the weight of Dr. Hasselbring's testimony, rather than to the admissibility of her testimony. Defendants will have an opportunity on cross-examination to question Dr. Hasselbring regarding her tests and her conclusions regarding the outcome of those tests. The Court also finds that Dr. Hasselbring's research and tests have been subjected to peer review. Her findings were published in the Journal of Hazardous Materials Vol.130, Issues 1-2, March 17, 2006, pgs. 64-68. Dr. Hasselbring also has shown that flame arresters have been generally accepted in the scientific community. She cites in her report various circumstances in which they are utilized. Her report does not indicate what the known or potential rate of error is regarding her tests. But, the factors listed above are only guiding factors and an expert must not meet every single element in order to be allowed to testify. In Jauregui v. Carter Mfg. Co., 173 F.3d 1076 (8th Cir. 1999), the Court stated, "[o]f course, the Daubert reliability factors should only be relied upon to the extent that they are relevant . . . and the district court must customize its inquiry to fit the facts of each particular case." Id. at 1083 (internal citations omitted). The Court finds that Dr. Hasselbring's report meets the reliability standards under Daubert.

3. Relevance

Blitz argues that in order to be relevant, Hasselbring's testimony must "fit" the facts of the case at hand and not require "too great an analytical gap." Blitz states that the following are the problems with Hasselbring's testimony: 1) The gas used in Hasselbring's testing was spilled into a pool around the can, even though there is no evidence that happened on the date of the accident; 2) The type of cans used in some of the tests were different (different manufacturer and different size); 3) The level of gasoline in the can was different than what the evidence shows was in the can on the day of the accident. Hasselbring used only one-half to two cups of gas in the small cans. There are thirty-three cups in a two gallon, eight ounce can. Therefore, most of her test cans had only a very small amount of gas in them. Blitz argues that on the day of the accident the five gallon can was 2/3rd's full. However, it should be noted that the amount of the gas in the can on the day of the accident is disputed by the parties. 4) Hasselbring used weathered gasoline in her tests. Weathered gasoline is gasoline that has lost some of its volatile components through evaporation, resulting in a fuel that has less mass, less volatility, a higher boiling point and lower vapor pressure and a lower ignitability. There is a dispute as to how long the gasoline had been in the container that Justin used. 5) The use of weathered gasoline that had been artificially chilled. Blitz argues that only very cold gasoline that has been sufficiently weathered will produce vapors that are within the flammability limit. Because the outside temperature was 44°F on the day of the accident, Blitz argues that this does not support her theory. However, the gasoline had been stored in an outside barn and the temperature the night before had been in the twenties. 6) The lack of a source blowing air into the can. Blitz states that Hasselbring's tests did not involve the introduction of any air. 7) The

mechanics of pouring the gasoline in her tests. Hasselbring states that an internal combustion can occur when a person is pouring gasoline. However, at the time of the accident, Justin was not pouring the gasoline, but was holding it in his hand, blowing on the spout and trying to extinguish the flame.

Dr. Hasselbring states that she did in fact test the identical five gallon Blitz container as shown in Table 4 of her report on page twelve. She also tested gasoline containers of other competitors. Dr. Hasselbring tested one, two and five gallon containers. Additionally, Dr. Hasselbring states that the Blitz 30(b)(6) representative testified that the one, two and five gallon containers were all substantially similar. With regard to the amount of gasoline in the can, Dr. Hasselbring states that this is a disputed issue of fact. With regard to the issue of weathering, Dr. Hasselbring states that you can obtain weathered gasoline by leaving the cap open or by allowing escaping vapors from the container to be ignited and allow the flame on the end of the nozzle to burn until such time as the low ends are eliminated and the remaining vapor to air ratio is within the stoichiometric range. She states that in her tests the videotape showed that as the person poured gasoline on the open flame, the vapors were ignited and the flame followed the vapor trail back to the container. However, at that time the container was too rich because the flame burned on the end of the spout and did not follow the vapor trail inside the container. As the container was tilted upright and the flame continued to burn, only at that point was the explosability range reached and the explosion occurred. Dr. Hasselbring states that this is what happened with Justin, except he accelerated the process by blowing on the spout.

The Court finds that Dr. Hasselbring's testimony is relevant to the facts of this case. While it is true that she conducted tests involving different sizes of gasoline cans,

with different amount of gasoline and at different temperatures, she also conducted tests using the same size and type of can that is at issue in this case. In Synergetics, Inc. v. Hurst, 477 F.3d 949 (8th Cir. 2007), the Court stated, “[a]s a general rule, the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross-examination.” Id. at 955 quoting Bonner v. ISP Tech., Inc., 259 F.3d 924, 929 (8th Cir. 2001). In that case, the Court observed that the expert had explained his methodology for calculating damages and that the opposing party had the opportunity to challenge the expert’s assumption and methodology, both through cross-examination and also by calling their own expert witness. The Court stated:

[w]hile other methods for calculating damages may be available, so long as the methods employed are scientifically valid, Appellants’ mere disagreement with the assumptions and methodology used does not warrant exclusion of expert testimony. . . . Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.

Id. at 956 (internal citations and quotations omitted). The Court finds that the defendants’ objections to Dr. Hasselbring’s tests and report go to the weight of her testimony and not to its admissibility. The Court finds that her report and testimony are scientifically valid and the defendants merely disagree with the methods and the way that she structured the tests. However, the defendants may bring up these issues and disagreements with Dr. Hasselbring on cross-examination. Accordingly, defendants’ Motions to Exclude Dr. Hasselbring are hereby **DENIED** (Docs. 175, 180).

B. Plaintiff’s Motion to Exclude Richard Roby

Defendant’s expert Richard Roby believes that the accident occurred because of a “BLEVE” (Boiling Liquid Expanding Vapor Explosion). This occurs when the gasoline

container has been exposed to a flame of sufficient magnitude and for a sufficient period of time for the temperature on the inside of the container to be elevated to the point where the gasoline will boil causing the vapors to expand. If the expanded vapors do not have a way to escape, then the internal pressure within the gasoline container will exceed the ability of the container to contain the pressure and it results in a fracture of the container. If the explosion resulted from a flashback/internal combustion, then the inclusion of a flame arrester at the opening of the container would have prevented the explosion, but if the explosion was the result of a BLEVE, then a flame arrester would be of no benefit.

Plaintiffs are challenging the following opinions of Roby: 1) Plaintiffs state that BLEVE's occur only in closed sealed containers and the container in this case was not sealed. 2) In order for Roby's theory to work, the container had to be exposed to very high temperatures for a sufficient period of time to allow the gasoline to reach the boiling point. Plaintiffs challenge the test that Roby conducted, because he did not expose the container to fire, but instead used a 5 gallon container that was completely closed, sealed and filled with water. Additionally, plaintiffs argue that Roby conducted no tests to determine how long a container had to be exposed to heat in order for the heat to transfer thru the plastic container into the gasoline in order for it to boil. Plaintiffs state that Roby's opinions have not been scrutinized by the scientific community and there have been no peer reviewed articles in support of his opinion. 3) Plaintiffs also challenge Roby's theory that the burn pattern on Justin's clothes was consistent with a BLEVE and not consistent with a flashback/internal combustion. Plaintiffs state that in support of this argument, Roby cites the website "YouTube" which shows a film clip apparently illustrating that a flash fire cannot ignite clothing. Roby's conclusion is that if

the Howerton incident had been an internal combustion explosion, as plaintiffs' suggest, then Justin would only have been exposed to a similar flash flame and his clothing would not have been burned and he would not have suffered significant injuries. However, plaintiffs state that Roby did no testing to confirm this opinion and it is not subject to peer review.

Defendants state that Roby utilized the Scientific Method to reach his conclusions. This is a process whereby a hypothesis is tested against all available data, evidence and the accepted principles of science and mathematics to determine if the hypothesis is valid and if it explains an observed outcome or result. With regard to the charge that Roby did not conduct any tests, he responds that an expert need not conduct tests regarding each foundational element of their opinion, instead an expert may rely on accepted principles of science and mathematics, along with competent research materials. With regard to the argument that his opinions and conclusions have not been subject to peer review and publication, he states that he utilizes his extensive education and experience in the field of combustion science, along with the principles of science involved, all of which have been extensively tested and subjected to peer review and publication. Roby also states that he has reviewed all of the facts and evidence in the case. He states that the facts used in his analysis are consistent with the facts and evidence in the case. Roby also states that he did not change the facts in the case and that BLEVE's can and do occur in vented containers.

In considering the Daubert factors, the Court finds that Dr. Roby utilized the Scientific Method in arriving at his conclusion that the accident in this case was caused by a BLEVE. Dr. Roby states that the scientific basis for his opinions relies on generally accepted principles of science and engineering, such as the fact that BLEVE's can

occur in both vented and unvented containers, choked flow through a vent and the concept of flammability limits for propagation of premixed flames. Dr. Roby states that the occurrence of BLEVE's in both vented and unvented containers has been recognized and generally accepted in the fire safety and fire protection communities since at least the 1960's and are described in numerous fire science and fire protection texts. These publications are listed in Dr. Roby's affidavit. Thus, this would also satisfy the second criteria - that the theory has been subject to peer review and publication. There is no discussion of the potential rate of error. However as was discussed previously, an expert's opinion does not have to satisfy each of these criteria, as the criteria are specific to each case and are designed to provide guidance for the Court. The fourth factor is whether the theory enjoys general acceptance in the relevant scientific community. Dr. Roby has cited several examples of textbooks and publications supporting his theory that the accident was the result of a BLEVE. The Court also finds that Dr. Roby has attempted to rule out the plaintiffs' alternative explanation of an internal combustion explosion and he has also attempted to connect his proposed testimony to the facts of the case. The Court finds that the plaintiffs' specific objections to Dr. Roby's testimony go to the weight of his testimony and not to the admissibility. Accordingly, the Court hereby **DENIES** plaintiffs' Motion to Exclude the Opinion Testimony of Richard J. Roby (Doc. # 182).

IV. CONCLUSION

Accordingly, the Court hereby **DENIES** Wal-Mart's Motion to Exclude the Testimony of Dr. Hasselbring (Doc. # 175); **DENIES** Blitz's Motion to Strike and Exclude Lori Hasselbring (Doc. # 180) and **DENIES** Plaintiffs' Motion to Exclude Testimony of Richard Roby (Doc. # 182).

Date: 12/28/07
Kansas City, Missouri

S/ FERNANDO J. GAITAN, JR.
Fernando J. Gaitan, Jr.
Chief United States District Judge